

### ABSTRACT

The present invention provides a tuned muffler for small, single cylinder internal combustion engines, particularly 4-cycle engines. The muffler includes a first shell having an exhaust inlet, a central plate, and a second shell having an exhaust outlet. The central plate is disposed between the first and second shells, and the foregoing components define an exhaust path therethrough which includes a first expansion volume, a first passage, a second expansion volume, and a second passage. The first and second expansion volumes and the first and second passages are dimensioned to provide an exhaust tuning effect to enhance engine performance, and also to provide an exhaust flow path which conducts the exhaust gas smoothly through the muffler to substantially reduce back pressure within the muffler. Additionally, the shapes of the first and second expansion volumes and the first and second passages are configured to provide a compact overall profile to the muffler, such that the muffler may be conveniently used with small internal combustion engines.